

## **ABSTRACT**

Disclosed is an environment detection system having two emitters of electromagnetic waves and two correspondingly directed receivers for receiving reflections of the emitted waves. The first emitter with a first receiver is directed towards a first target area and the second emitter with the second receiver is directed towards a second target area. In order to detect a third target area, an optical device is arranged at least in front of the first emitter. The optical device directs at least occasionally at least a proportion of the waves emitted by the emitter towards the third target area. An optical device is arranged at least in front of the second receiver, to direct at least occasionally reflections of the waves emitted by the first emitter towards the third target area towards the second receiver. The optical devices may be arranged permanently and only one emitter is alternately active a time so that one receiver a time carries out an undisturbed detection of the third target area. This arrangement enables an emitter-receiver pair arranged on the right side of a motor vehicle and an emitter-receiver pair arranged on the left side of said motor vehicle to detect the whole front area in the direction of motion, wherein both emitter-receiver pairs are arranged in the direction of motion.